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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,802	11/20/2003	Alan Michael Jaffee	7303	9711

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EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,802

Applicant(s)

JAFFEE ET AL.

Examiner

Norca L. Torres-Velazquez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 62-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 62-95 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed January 5, 2006 have been fully considered but they are not persuasive.

a. Applicants have amended independent claim 62 to now include the limitation "the mat passing the flammability test of NFPA, Method #701. Applicants argue that the prior art of record fails to teach such property.

With regards to the claimed property of passing the NFPA Method #701 flammability test, it is the Examiner's position that once the prior art has meet all the structural and chemical properties of the nonwoven mat structure, the mat will inherently possess the claimed flammability property. Arguments regarding excellent and unexpected flame resistance and flex and recovery properties after scoring and folding are not relevant to the present claims. It is further noted that both references of KAJANDER and ARKENS are concerned with reducing the levels of VOC emissions produced from formaldehyde in the production of fiberglass mats, and the purpose of ARKENS et al. of using the binder of their invention without formaldehyde would have recognized in the reference of KAJANDER, therefore, it would have been obvious to use the binder of ARKENS in the mat of KAJANDER to produce nonwovens without formaldehyde to avoid the production of VOC emissions. The Examiner finds that the combination of JAFFEE and ARKENS is proper as both references are directed to the construction of fiberglass mats and the ARKENS reference provides an alternate binder composition.

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b. It is noted herein that no Terminal Disclaimer was enclosed with the response on January 05, 2006. The nonstatutory double patenting rejection over the pending patent application No. 10/718,007 in view of Geel is maintained herein.

c. Claim 74 has been amended to include the limitation "and the mat also contains an effective amount of an organic phosphonate". A new rejection is included herein to address the new limitation.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 62-73, 75-81, 83-89, 91-92 and 94-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over KAJANDER (US 5,837,620) in view of ARKENS et al. (US 5,661,213).

KAJANDER relates to mats that contain about 25-75 weight percent fibers and about 15-75 percent binder. The majority of the fibers are glass fibers with diameters in the range of less than 1 up to 23 microns or higher, with the major portion of the fiber being preferably in the range of about 6 to 19 microns and most preferably in the range of about 8 to 16 microns. (Col. 2, lines 57-66) The glass fibers all have about the same target length, such as 0.25, 0.5, 0.75, 1 or 1.25 inch. (Col. 3, lines 6-7) The reference teaches using resins that include formaldehyde to bond the fibers together. (Refer to Col. 3, lines 29-42)

While the mat of KAJANDER provides glass fibers with the presently claimed diameter and length, the reference fails to use a binder that is at least partially cured and comprises before drying and curing a homopolymer or a copolymer of polyacrylic acid and a polyol.

ARKENS et al. relates to a formaldehyde-free curable aqueous composition containing a polyacid, a polyol and a phosphorus-containing accelerator. The composition may be used as a binder for heat resistant nonwovens such as nonwovens composed of fiberglass. (Abstract) The reference teaches that the polyacid may be a compound with a molecular weight less than about 1000 bearing at least two carboxylic acid groups and teaches that it may be a polymeric acid that is preferably an addition polymer formed from at least one ethylenically unsaturated monomer (such as methacrylic acid, acrylic acid, among others). (Refer to Col. 3, lines 45 through Col. 4, lines 1-5) The reference further teaches that the polyol may be triethanolamine (Col. 6, lines 1-6) The formaldehyde-free curable aqueous composition may also contain emulsifiers, pigments, fillers, colorants, wetting agents (*equated to hydrophilic material*), among other components. (Refer to Col. 6, lines 52-57) The reference teaches a nonwoven substrate made from a fiberglass fiber at 1.25 inches in length with a binder add-on of 28%. (Example 3)

Since both references are directed to fiberglass mats, the purpose disclosed by ARKENS et al. would have been recognized in the pertinent art of KAJANDER.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of KAJANDER and provide them with the binder composition of ARKENS et al. with the motivation of producing a heat-resistant nonwovens without formaldehyde as disclosed by ARKENS et al. (Col. 1, lines 11-55). It is noted that KAJANDER recognizes the importance of reducing the levels of VOC emissions produced from

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formaldehyde containing compounds and by using the binder composition taught by ARKENS et al. such emission are eliminated.

Although the prior art of KAJANDER in combination with ARKENS does not explicitly teach the claimed property of passing the NFPA Method #701 Flammability Test it is reasonable to presume that this property is inherent to a mat from the combination of KAJANDER and ARKENS. Support for said presumption is found in the use of like materials (i.e. nonwoven mat that includes glass fibers with a binder that prior to curing includes a polyacid and a polyol similar to the one claimed herein). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of meeting the NFPA #701 test would obviously have been present one the product form the combination of KAJANDER and ARKENS is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80

4. Claims 62-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over JAFFEE (US 6,008,147) in view of ARKENS et al. (US 5,661,213).

JAFFEE discloses a fibrous nonwoven mat that comprises glass fibers bound with acrylic copolymer latex. (Col. 1, lines 66 through Col. 2, lines 1-5) The mats contain about 70-85 weight percent fibers and about 15-30 percent acrylic copolymer binder. (Col. 3, lines 34-38) The glass fibers should be at least 0.75 inch long and the reference further teaches fibers with diameters of at least 13 microns. (Col. 3, lines 46-54) JAFFEE also teaches that the mats can also contain pigments, dyes, flame-retardants, and other additives. (Col. 2, lines 34-38)

While JAFFEE teaches using cross-linking acrylic copolymer resins in the binder, it is silent to the specific composition of it.

ARKENS et al. relates to a formaldehyde-free curable aqueous composition containing a polyacid, a polyol and a phosphorus-containing accelerator. The composition may be used as a binder for heat resistant nonwovens such as nonwovens composed of fiberglass. (Abstract) The reference teaches that the polyacid may be a compound with a molecular weight less than about 1000 bearing at least two carboxylic acid groups and teaches that it may be a polymeric acid that is preferably an addition polymer formed from at least one ethylenically unsaturated monomer (such as methacrylic acid, acrylic acid, among others). (Refer to Col. 3, lines 45 through Col. 4, lines 1-5) The reference further teaches that the polyol may be triethanolamine (Col. 6, lines 1-6) The formaldehyde-free curable aqueous composition may also contain emulsifiers, pigments, fillers, colorants, wetting agents (*equated to hydrophilic material*), among other components. (Refer to Col. 6, lines 52-57) The reference teaches a nonwoven substrate made from a fiberglass fiber at 1.25 inches in length with a binder add-on of 28%. (Example 3)

Since both references are directed to fiberglass mats, the purpose disclosed by ARKENS et al. would have been recognized in the pertinent art of JAFFEE.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of JAFFEE and provide them with the binder composition of ARKENS et al. with the motivation of producing a heat-resistant nonwovens without formaldehyde as disclosed by ARKENS et al. (Col. 1, lines 11-55).

Although the prior art of JAFFEE in combination with ARKENS does not explicitly teach the claimed property of passing the NFPA Method #701 Flammability Test it is reasonable

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to presume that this property is inherent to a mat from the combination of JAFFEE and ARKENS. Support for said presumption is found in the use of like materials (i.e. nonwoven mat that includes glass fibers with a binder that prior to curing includes a polyacid and a polyol similar to the one claimed herein). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of meeting the NFPA #701 test would obviously have been present one the product form the combination of JAFFEE and ARKENS is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80

5. Claims 74, 82, 90 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over KAJANDER in view of ARKENS et al. or JAFFEE in view of ARKENS et al. as applied above, and further in view of BLACK (EP 0378295 A2).

BLACK teaches compositions imparting flame retardant properties to fabrics from synthetic polymer fibers and teaches the use of cyclic organic phosphate. (Abstract)

It is the Examiner's position that it would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the mat with an organic phosphate as a flame retardant additive motivated by the desire of providing the fibers with flame retardant properties.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed.

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Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 62-95 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 51-94 of copending Application No. 10/718,007 in view of GEEL (US 2003/0109190 A1). The present claims fail to teach the inclusion of man-made polymer fibers as a blend with glass fibers. GEEL discloses a nonwoven reinforcing mat that includes a base web having about 10 to about 80 percent by weight glass fibers, about 20 to about 90 percent by weight polyethylene terephthalate fibers and binders. (Abstract) The reference uses polyethylene terephthalate (polyester) fibers as the polymer fibers with diameter of from about 6 to about 16 microns and a length of from about 4 to about 25 mm [0.15-0.98 inches]. (Refer to [0008]-[0009]) It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the polymer fibers with the motivation of improving the tear strength, improved resistance against moisture and rot as disclosed by GEEL. [0015]

This is a provisional obviousness-type double patenting rejection.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-5:00 pm and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Norca L. Torres-Velazquez
Primary Examiner
Art Unit 1771

March 9, 2006